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EXAMINER

JOHNSTONE, ADRIENNE C

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/843,227

Applicant(s)

NANNI ET AL.

Examiner

Adrienne C. Johnstone

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-16 and 25-92 is/are pending in the application.
- 4a) Of the above claim(s) 53 and 90-92 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-16, 25, 37-43, 45, 46 and 50 is/are allowed.
- 6) ☒ Claim(s) 26-36, 44, 47-49, 51, 52, 54-74 and 78-89 is/are rejected.
- 7) ☒ Claim(s) 75-77 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of the invention of the pneumatic tire whose fiber-reinforced elastomeric intermediate layer comprises cross-linking resin and the species wherein the cross-linking resin comprises resorcinol-formaldehyde resin, claims 14-16, 25-52, and 54-89 in Paper No. 12 and Paper No. 14 is acknowledged. The traversal is on the ground(s) that, regarding the restriction requirement, the examiner has not shown the required serious burden. This is not found persuasive because the statement of the different required search in paragraph 4 of the restriction requirement mailed September 25, 2003 (Paper Number 13) and the fact that the search for Group II would also require a search in other areas such as 428/401 not required for Group I constitutes a *prima facie* showing of serious burden which applicants have not rebutted with the required appropriate showings or evidence (MPEP 803).

The requirement is still deemed proper and is therefore made FINAL.

Regarding the non-elected species wherein "the cross-linking resin comprises resorcinol-formaldehyde resin with aromatic polyamidic fibers" (claim 53), the original disclosure does not support providing the fibers *inside the resorcinol-formaldehyde resin* as claim 53 requires (see the compound in Table 1: the Kevlar pulp is provided in a natural rubber masterbatch and *not* in the Resorcinol 80 resin, therefore the resin itself cannot comprise resorcinol-formaldehyde resin *with aromatic polyamidic fibers*).

2. Claims 53 and 90-92 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention or species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 14.

*Claim Objections*

3. Claims 31, 44, and 78 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. As repeated from Paper Number 7 paragraph 6, this method limitation does not further limit the claimed tire structure: contrary to applicants' arguments, in the completed tire structure all of the layers of the tire are bonded together and therefore the completed tire structure is the same whether the fiber-reinforced elastomeric intermediate layer is "incorporated into the tread band" or provided some other way such as incorporated into the belt structure or provided separately from both the belt structure and the tread band.

4. Claim 56 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Since both Kevlar and Twaron are trademarks for short aramid fibers, it is not clear how claim 56 further limits the claim 55 short aramid fibers.

5. Applicant is advised that should claim 55 be found allowable, claims 57 and 58 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

6. Applicant is advised that should claim 66 be found allowable, claim 67 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight

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difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

*Claim Rejections - 35 USC § 112*

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 26-36, 44, 47-49, and 78 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

See paragraph 3 above concerning the method limitation in claims 31, 44, and 78: it is not clear how this limitation further limits the claimed tire structure. Also, in claims 26-30, 32, and 33 it appears the dependency should be on claim 25 rather than claim 15 because there is currently no antecedent basis in claim 15 for "the short reinforcing fibers" or "the compound material"; for purposes of this examination claims 26-30, 32, and 33 will be considered to depend from claim 25, but correction is required. Further, in claims 34 and 47 the cords "crisscross each other" only from one layer to the next (see the specification p. 7 lines 24-27 for example) and therefore there must be -- at least two layers -- of the rubberized cord fabric rather than "at least one layer" (note that this problem does not exist in claim 79). Still further, it appears from the specification (p. 1 lines 15-30) that in claims 35, 36, 48, and 49 the 0 degree layer is excluded -- between the belt structure and the tread band -- rather than excluded from anywhere in the tire, but this is not yet clear in claims 35, 36, 48, and 49 (note that this problem does not exist in claims 80, 81, 85, and 88) and it appears from the specification (p. 1 line 31 - p. 2 line 29) that in claims 36 and 49 the "rubber sheet" is excluded -- on the underside of the tread band -- rather than excluded from anywhere in the tire and the "underlayer" is a -- tread underlayer -- , but this

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is not yet clear in claims 36 and 49 (note that this problem does not exist in claims 81, 82, 85, 86, 88, and 89).

9. Claim 56 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The trademarks Kevlar and Twaron in claim 56 are intended by applicants to identify a particular material (aromatic polyamide, aramid for short), which renders the claim indefinite as per *Ex Parte Simpson*, 218 USPQ 1020 (see MPEP 2173.05(u)); further, it is not clear what structural differences exist between Kevlar and Twaron aramid short fibers (if there are none, reciting both trademarks creates confusion by implying that two different materials are recited). One way to overcome this rejection would be to substitute the appropriate material descriptions for the trademarks in the claim including one or more features distinguishing one aramid material from the other.

10. Claims 55, 57, and 58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear how short fibers “made from an aramid polymer” or short fibers which “comprise an aramid polymer” are any different from short fibers which “comprise aramid fibers”: in each case the claim language appears to require that the short fibers include aramid fibers. This is especially true in view of the original disclosure, which supports the examiner’s interpretation that these phrases all have the same meaning.

11. Claims 66 and 67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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It is not clear how an orientation “substantially parallel to an equatorial plane of the tire” differs from an orientation “at an angle of substantially 0° relative to an equatorial plane of the tire”.

*Claim Rejections - 35 USC § 102*

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 51, 54-58, 60-73, and 78-86 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Application 4-274903.

See the translation paragraphs 0007-0017 and the figure: the exemplary alkyl phenol-formaldehyde condensate is a cross-linking resin. As to claim 56, see paragraph 9 above. As to claims 61 and 62, the exemplary rubber compositions each contain rubber which is 60% natural rubber (NR). As to claims 63-65, exemplary rubber composition A has 15 phr short fibers and exemplary rubber composition B has 8 phr short fibers. As to claims 68-73, each of the exemplary rubber compositions has 50 phr N330 carbon black and a thickness in the tire of 1.5 mm. As to claim 78, see paragraph 8 above. As to claim 79, one of ordinary skill in the art would have understood the JP '903 tire to have basic tire structure such as rubberized fabric cords crossing from one layer to the next and angled with respect to the equatorial plane forming the belt 2. As to claim 84, the claim does not require any particular order of the steps and therefore does not distinguish over the completed tire structure noted above.

14. Claims 51, 54, 60-74, and 78-89 are rejected under 35 U.S.C. 102(b) as being anticipated by European Patent Application 0 652 116 A1 cited by applicants.

See the translation and the figures: the exemplary resorcinol and resorcinol-containing resins (translation p. 3 lines 25-30 and p. 6 lines 7-12) are cross-linking resins. As to claims 60-62, the exemplary rubber in the compound material is 85% natural rubber (translation p. 5

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exemplary composition). As to claims 63-65, the concentration of short fibers is 5-50 phr and preferably 10-35 phr (translation p. 3 lines 1-3 and p. 4 lines 18-23). As to claims 68-70, the exemplary rubber compound contains 55 phr N326 carbon black (translation p. 5 exemplary composition). As to claims 71-73, the thickness of the rubber layer 5 is approximately 0.5-3.5 mm and preferably 1-3 mm with an exemplary thickness of approximately 1.5 mm (translation p. 4 lines 32-35 and claim 8). As to claim 74, the rubber layer 5 may be provided with greater thickness in the regions covering the edges of the belt layers ("coverage" region in the translation p. 5 lines 8-11). As to claim 78, see paragraph 8 above. As to claims 84-89, the rubber layer 5 may be either disposed on the belt and the tread subsequently disposed on the rubber layer 5 or coextruded or cocalendered with the tread (extruded or calendered rubber layer "pre-doubled" with the tread, translation p. 3 line 34 - p. 4 line 3 and p. 6 lines 13-21).

*Claim Rejections - 35 USC § 103*

15. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

16. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 4-274903 in view of Sperley (3,969,568).

JP '903 is discussed in paragraph 13 above. The claimed resorcinol-formaldehyde resin is a notoriously well known alkyl phenol formaldehyde resin adhesion-promoting component in such fiber-reinforced rubber compositions, as evidenced by Sperley (col. 1 line 1 - col. 3 line 12) for example; it would therefore have been obvious to one of ordinary skill in the art to use such notoriously well known resorcinol-formaldehyde resin as the alkyl phenol formaldehyde resin component in the JP '903 fiber-reinforced elastomeric intermediate layer.

17. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application 0 652 116 A1 in view of Sperley (3,969,568).

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EP '116 is discussed in paragraph 14 above. The claimed resorcinol-formaldehyde resin is a notoriously well known resorcinol-containing resin in such fiber-reinforced rubber compositions, as evidenced by Sperley (col. 1 line 1 - col. 3 line 12) for example; it would therefore have been obvious to one of ordinary skill in the art to use such notoriously well known resorcinol-formaldehyde resin as the resorcinol-containing resin in the EP '116 fiber-reinforced elastomeric intermediate layer.

18. Claims 56 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 4-274903 in view of Brown et al. (4,871,004).

JP '903 is discussed in paragraph 13 above. It is notoriously well known to use Kevlar pulp having fibrils extending from a trunk portion as aramid short fibers in rubber compositions for tires, as evidenced by Brown et al. (col. 1 line 5 - col. 2 line 46) for example; it would therefore have been obvious to one of ordinary skill in the art to use such notoriously well known Kevlar pulp as the aramid short fibers in the JP '903 fiber-reinforced elastomeric intermediate layer.

19. Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 4-274903 or, alternatively, European Patent Application 0 652 116 A1, in view of Greiner et al. (3,759,306).

JP '903 and EP '116 are discussed in paragraphs 13 and 14 above. It is well known to provide such elastomeric intermediate layers with thickened end portions in order to reinforce the end portions, as evidenced by Greiner et al. (col. 4 line 63 - col. 5 line 13) for example; it would therefore have been obvious to one of ordinary skill in the art to provide such well known thickened end portions in the JP '903 or EP '116 elastomeric intermediate layer in order to reinforce the end portions thereof.

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20. Claims 84-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 4-274903 or, alternatively, European Patent Application 0 652 116 A1, in view of Causa et al. (5,576,104) and European Patent Application 0 592 218 A1.

JP '903 and EP '116 are discussed in paragraphs 13 and 14 above. It is conventional to manufacture such tires by either providing the elastomeric intermediate layer separately or coextruding the elastomeric intermediate layer with the tread band, as evidenced by Causa et al. (col. 8 lines 10-40) and EP '218 (Production Processes 1 and 2) for example; it would therefore have been obvious to one of ordinary skill in the art to manufacture the JP '903 or EP '116 tire using such conventional methods.

*Allowable Subject Matter*

21. Claims 14-16, 25, 37-43, 45, 46, and 50 are allowed.

See Paper Number 7 paragraphs 24 and 25 for reasons for allowance.

22. Claims 26-36, 44, and 47-49 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

See Paper Number 7 paragraphs 24 and 25 for reasons for allowance.

23. Claims 75-77 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

See Paper Number 7 paragraphs 24 and 25 for reasons for allowance.

*Conclusion*

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Japanese Patent Application 8-3369 A anticipates or renders obvious at least claim 51 but is considered at this time to be no more pertinent to the instant claims than the prior art applied by the examiner above.

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25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrienne C. Johnstone whose telephone number is (571)272-1218. The examiner can normally be reached on Monday-Friday, 10:30AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571)272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Adrienne C. Johnstone

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Primary Examiner

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Adrienne Johnstone

February 18, 2004

*Adrienne C. Johnstone*